

# MUNICIPAL JOURNAL AND ENGINEER

VOLUME XX

NEW YORK, MARCH 14, 1906

No. 11

## GOVERNMENT EXPERTS BUILD ROADS

Operations of Public Roads Division in Nine States  
—The Cost of Highways—Experiments  
Were Successful

THE Division of Public Roads, Department of Agriculture, built twenty-one roads in nine different States last year, using stone, shale, burnt clay, sand clay, shell, gravel and marl in the construction. Individual reports show a maximum cost of 98 cents and an average cost of 55 cents per square yard for macadam roads, and an average cost of  $9\frac{1}{2}$  cents per square yard for sand clay roads. The cost of the burnt clay road is shown to be 20 cents per square yard, and of the shell road, 34 cents per square yard.

Seven of the roads were built in Florida, three each in Ohio, Missouri and Washington, and one each in Illinois, Wisconsin, Kansas, Louisiana and Mississippi. The successful results obtained from roads constructed of material secured by burning the clay or "gumbo" in the Mississippi delta leads the experts to believe that a solution of the good roads problem has been reached.

The roads experimented on were first plowed to a good depth and a width of twenty feet, from ditch to ditch, and then crowned with a road machine. Trenches were then dug across the road four feet apart, and about 12 inches deep, earth being thrown up so as to form ridges between the trenches. Next a layer of cordwood was placed over each trench, the ends of the sticks resting on the tops of the ridges, the intervening trenches forming flues across the road. Upon this floor of wood was thrown "gumbo," or clay, in lumps and clods, so as to form an open layer only partially covering the wood, the sticks being laid at right angles with the road and as close together as possible, being supplemented by small sticks, chips, bark and brush. On this floor was thrown a layer about ten inches thick of "gumbo," partly clods and partly pulverized. Firing was then begun and continued much the same as with a brick-kiln. After the road was burned it was smoothed down so as to form a proper crown, and was opened for travel. Reports recently received concerning this road show that it only cost one-fourth as much as the gravel road adjoining it, and will probably last much longer.

## STREET REPAIRS IN BALTIMORE

City Engineer Fendall Reports on Expensive Pavements  
—Blocks Near Post Office Often Relaid—Old  
Paving Costly

ACCORDING to a report laid before the Baltimore City Council by City Engineer Fendall, the pavements on Fayette and Lexington streets, between Calvert and North streets, north and south of the Post Office, are easily first in the matter of expenditures on repairs. These pavements were laid in 1892, since which time over twice the amount of the original contract has been spent in repairs.

The original cost of paving the two blocks was \$4,716, while the cost of repairs, during eleven years, from the expiration of the guarantee to January 1 last, was \$9,467. The cost of repairs averaged 49 cents a square yard a year, while the first cost was \$2.70 a square yard. Taking the first cost with the expense of repairs, the two blocks of pavement have cost the city \$8.09 a square yard. First-class asphalt pavements have been laid in Baltimore on a five-year guarantee for as low as \$1.52 a square yard.

The report contains several tables showing the first cost and the cost of repairs of a number of streets paved with sheet asphalt and asphalt blocks. The oldest sheet asphalt pavement referred to is that on the streets about City Hall. This was laid in 1885, under a two-year guarantee, the cost being \$6,404.70. In the eighteen years since the expiration of the guarantee, these pavements have cost \$7,536.40 for repairs, averaging about twelve cents a square yard a year.

The asphalt pavement on Charles street, between Madison and Chase streets, was twenty-four years old when relaid last year. The original cost was \$17,155, and the cost of repairs \$19,304.59, the average cost being twelve cents a square yard a year—the same as the average cost for the streets about City Hall, and for the block-asphalt pavement on Calhoun street, between Edmondson and Harlem avenues, which was laid twenty-one years ago. The most expensive piece of block-asphalt pavement, from the standpoint of repairs, is on Cathedral street, between Monument and Madison streets. This pavement has cost \$6,351.89 for repairs, the cost when laid twenty-one years ago, with a two-year guarantee, having been only \$2,977.50.

## NEW ORLEANS AND YELLOW FEVER

### Preparations to Combat the Plague—National and State Authorities to Co-operate with Local Officials—To Exterminate Mosquitoes

PREPARATIONS are being made to render New Orleans immune from yellow fever during the coming summer, and the city officials will have the assistance of the National and State Governments to prevent a recurrence of the plague. Governor Blanchard has recently held conferences with Mayor Behrman, and plans have been agreed upon to meet the situation. President C. H. Irion, of the Louisiana State Board of Health, who has conferred with other State and city officials, is authority for the statement that the U. S. Marine Hospital Service will work in conjunction with the local officials.

Governor Blanchard states that every power possible will be brought to bear to enforce the screening ordinances throughout the entire State. A war of extermination is to be waged against the mosquitoes and a general process of cleaning up along sanitary lines has been determined upon.

Mayor Behrman appreciates the situation confronting the city, and has expressed the obligation of the citizens to the State and Federal authorities for their ready co-operation. "The real danger which confronts the people," he says, "is what might result from commercial rivalry. Every citizen should exert his best efforts to comply with the sanitary laws."

City Health Officer Kohnke says the most important work in progress is the enforcement of the screening ordinance, for which \$10,000 was appropriated by the City Council. While the first month's report showed only about 8,000 premises inspected, owing to the fact that the force was then being organized, the daily inspections now average 900 or 1,000. Volunteer work has been solicited, but such efforts must be performed under constituted authority. Last year, according to Health Officer Kohnke, there were many heads, and great confusion resulted. All citizens are asked to report to the Board of Health any suspected cases of yellow fever, so that the infections can be readily dealt with.

## A SINKING FUND FOR SPOKANE

### To Liquidate City's Debt in Fifteen Years—Mayor Plans Retrenchment—No Tax Increase

THE debt of the City of Spokane, Wash., amounting to about \$1,900,000, is to be discharged within fifteen years, according to a plan evolved by Mayor Floyd L. Daggett and City Treasurer H. M. Eggleston. A sinking fund will be created, into which shall be paid annually the proceeds of a tax levy of 2½ per cent. on the assessed property. It is estimated that the amount paid into the fund the first year, based upon an assessed valuation of \$35,000,000, will approximate \$96,000, and the payments will increase every year.

Instead of causing an increase in the annual tax rate, the Mayor and City Treasurer assert the rate will be lowered, year by year, for the next fifteen years. They point out that during the past five years immense drains have been made upon the city Treasury for the fund known as the redemption and judgment fund, sums aggregating over a quarter of a million dollars having been paid to discharge a bonded indebtedness incurred for street improvements. Under the provisions of the laws providing for local improvements, the expense of the improvement is made a lien upon abutting property, but bonds are issued by the city and the holders of the bonds look to the city for payment. It is the duty of the city to collect the assessments in installments as specified in the bonds, but during hard times, some years ago, the city officials failed to collect the moneys due, believing that payment could not be enforced.

In addition to the indebtedness of \$1,900,000, named above, \$450,000 water bonds were issued last summer. These are to be provided for by water rents; also \$258,000 outstanding waterworks warrants, which form a lien on water revenues. These warrants are payable in annual installments.

## Superior's Engineer Reports

THE report of City Engineer S. M. White, of Superior, Wis., to the Board of Public Works, shows that the total expenses of the Department during the year were \$7,050.35, an excess over receipts and levy of \$1,305.85. The City Meter Inspector examined 205 water meters, 341 gas meters and 432 electrical meters. The paving work was the most important of any done by the Department, 71 per cent. of the year's contracts being for paving. The total cost was \$91,322.80, plus \$2,046.46 for removing the old cedar blocks. There are now about ten miles of paving in the city. This work was all done by contract, \$17,219.78 having been expended during the year 1905. More wooden sidewalks were also built in 1905 than in 1904, 9,438 lineal feet having been constructed at a cost of \$3,145.48.

## Gas Reduction for Detroit

DETROIT, MICH., is to have eighty-cent gas, a proposition to that effect having been submitted to the Board of Aldermen by Alanson P. Lathrop, General Manager of the Detroit City Gas Company. In the first offer, the Company stipulated that a minimum charge of fifty cents per month be allowed on all meters registering less than that amount for gas, but it was found necessary to modify the offer. The Company reserves the right to make special concessions to manufacturers using large quantities of gas. It is conceded that the Company will lose heavily during the first year, but it will gain in another way. At present there are about 90,000 meters in use. With a flat rate for both illuminating and fuel gas, but one meter instead of two will be used on each service. The company will then have about 45,000 meters on hand with which to supply the future demands.



## TELEPHONES AND MUNICIPAL OWNERSHIP

### Canadian Officials Investigate American Conditions— Winnipeg's Mayor Urges That City Build Conduits —Grand Rapids an Object Lesson

THE committee appointed by the Provincial Government of Manitoba, Canada, to investigate telephone systems in various American cities and report upon contemplated improvements, involving, in some instances, the principle of municipal ownership, has completed its investigation and is engaged in considering the data collected. An individual report, presented to the Winnipeg City Council by Mayor Thomas Sharpe on March 5, urges the advisability of owning any system of wire conduits, provision being made for renting spaces to private companies. Mayor Sharpe believes that the various independent telephone companies in the United States have done much to improve the systems now in use and to remedy the evils arising from what would otherwise be a monopoly.

From a municipal standpoint, the city of Grand Rapids, Mich., presented an interesting and profitable lesson to the visiting committee. Mayor Sharpe found conditions there somewhat similar to those existing in his own city, the population of which is about the same as that of Winnipeg. In the former city, about 7,300 telephones are operated by the independent company, of which about 1,300 subscribers are stockholders. The rates charged are \$36 per annum for business and \$25 for private telephones. The company pays 2 per cent. dividends every three months to its stockholders, or 8 per cent. per annum.

### Cleveland's Proposed \$700,000 Bridge

A SPECIAL committee of the City Council of Cleveland, Ohio, has reported that the Central Viaduct is in bad condition, and that, while there is no immediate danger, the bridge should be rebuilt as early as possible at a cost not to exceed \$700,000. City Engineer Carter inspected the bridge, as did Engineers Cowing, Parsons, Pardee and Hughes, and reported that the southern portion of the bridge has slipped eighteen inches toward the river. The second section of piers is also badly twisted, cracked and tilted forward, and in a weak condition. The entire north end of the bridge has settled over six inches. City Solicitor Baker has been directed to prepare an ordinance, submitting to the people the question of a \$700,000 bond issue for the construction of a new high level bridge.

### Electrolysis

ELECTROLYSIS is receiving the attention of the Board of Trustees at Sacramento, Cal., and precautions are to be taken before additional water pipes are laid in the streets. Attention has been called to the official report of the Superintendent of the Water Department, Dayton, Ohio, where 1,600 feet of main pipe, on one street, was destroyed by electric currents escaping from the street railway system. In conclusion, this report says:

"There seems to be no possible way in which the pipe system can be so insulated, where direct current is used, as to sufficiently control the current or prevent electrolysis. Many devices have been bought and put into use, such as additional bonding, auxiliary wires placed adjacent to the street car rails, the rails themselves cross-bonded and additional overhead return-feeders, all of which expedients have not had the desired effect."

## GAS FOR NEW JERSEY TOWNS

### The Camden Plant to Supply Extensive Territory—Will Pipe Product Fifty Miles

GAS made at Camden, N. J., is to be delivered through pipes to New Brunswick, a distance of fifty miles, supplying the municipalities between that city and Trenton; also Plainfield, Metuchen and Highland Park. The plan, which is proposed by the Public Service Corporation, is a novel one, for while it is not unusual to pump natural gas a considerable distance, this is the first time, so far as known, that an attempt has been made to send the artificial product over such a stretch of territory. Eleven-inch mains will be laid through the city of New Brunswick and under the Trenton turnpike to Trenton, where they will connect with mains to Camden.

It is intended ultimately to abandon the plants at New Brunswick and Plainfield, and to make the Camden plant one of the largest and most complete in the world. At the present time Trenton, and all places between that city and Camden, are supplied from the Camden plant. The supply for public and private consumption will not be interfered with while the improvements are under way, and it is expected that by the end of the summer, when the connections have been made, there will be sufficient gas to supply a much larger territory than is now covered by franchises of the Corporation.

### The Sewerage of Charleston, S. C.

CHARLESTON, S. C., is to install a complete sewerage system, to cost upward of \$300,000, from plans being prepared by City Engineer J. H. Dingle. It had been intended to improve the system in several districts, but Dr. T. Grange Simons, Chairman of the Board of Sewerage Commissioners, induced the City Council to give further consideration to the matter. The improvements in the First District, which are nearly completed, involved an outlay of \$50,000, this cost including the erection of the pumping station and other equipment, which will not have to be duplicated in the proposed extensions.

### An Important Convention

THE attention of our readers is directed to the annual convention of the New York and Chicago Road Association, to be held at Hornellsville, N. Y., March 20 and 21. Colonel W. L. Dickinson, Chairman of the Executive Committee, Springfield, Mass., will furnish information to interested inquirers.

## INSPECTING MONTREAL'S WATERWORKS

### Many Improvements Required to Perfect System—Must Lay Larger Mains and Widen Aqueduct—Filters Are Proposed

A RECENT inspection of the waterworks of Montreal, Canada, disclosed many deficiencies in the plant and a considerable sum must be expended to improve the water supply. The Engineer at the Point St. Charles pumping station reports that he fears to stop the engines to make necessary repairs, as delay in pumping would mean a shortage of water. Braces have been placed on one engine, which is cracked, and other expedients to continue the operation of the plant have been resorted to. At the "intake" of the aqueduct the piers are crumbling, while the aqueduct itself is so narrow that it could scarcely furnish water fast enough to the engines supplying the city.

Attention has been called to the improvements being made in other cities and action will shortly be taken by the authorities to improve the plant. Larger mains are required; the aqueduct must be widened to twice its present size, and the "intake" will be run far out into the river. Two large sand filtering basins, a settling basin, and other improvements are also asked by the Superintendent of the Water Department.

### The Columbus, Ga., Water Problem

THE City of Columbus, Ga., is encountering difficulty in securing a water supply. The citizens voted \$250,000 to build a new system, when the supply failed in 1902, but the five Commissioners have found it impossible to accept any of the propositions offered. A large sum was expended in testing an artesian well in Alabama, but when sufficient water was found, land owners between the city and the sites of proposed wells demanded exorbitant sums for a right of way across their property. The decision of the Commission to turn to the Chattahoochee river has caused dissatisfaction, and it is possible the matter will end in the courts.

### Toledo's Water Department

DISCORD in the Toledo, Ohio, Water Department has necessitated the issue, by the Board of Public Works, of instructions as to the duties of the various officials. Superintendent Hamilton is designated as General Superintendent of the Department, and is empowered to employ and discharge all employees, under the direction of the Board; Assistant Superintendent John Lewis will have entire charge of the pumps and engines, while Chemist G. R. Patton, who will have charge of the filter plant, is empowered to control the amount of water pumped.

### Ten Thousand Water Meters

THE City of Cleveland, Ohio, will purchase ten thousand water meters, and by a unique method, expects to get the best on the market. Assuming that the manufacturers would send their best samples, the city officials called into service the Mayor of one of the suburbs. The latter wrote

the manufacturers to send two or three meters with the utmost haste, as it was intended to install them immediately. These were received promptly, and were undoubtedly picked at random from the stocks of the manufacturers. They were turned over to the Cleveland officials by the village Mayor, the tests being made from them, instead of from the samples obtained by the Cleveland Water Department. Four bids were received by the Board of Public Service.

### Cheaper Gas for Oakland, Cal.

A REDUCTION in the price of gas will shortly be made by the Oakland Gas, Light and Heat Company, for citizens of Oakland, Alameda and Berkeley, Cal. It was not long ago that a reduction in the price was made; in fact, since the incorporation of the Company in 1866, the price has been consistently lowered from time to time. F. A. Leach, Jr., Manager of the Company, says the reduction will be a material one, and will affect the price of both illuminating and fuel gas. The Company, he said, has been very successful in introducing the use of gas for many manufacturing as well as household purposes.

### Electric Light in Pennsylvania

As the result of a recent decision of the Pennsylvania Supreme Court, that an electric-light company is a common carrier, and as such must furnish the same service at the same price to all who apply for it, the Lancaster, Pa., *Intelligencer* has entered suit against the Edison Electric Light Company to recover all excess charges represented by the discounts allowed other users of electric lights. It developed during the recent political campaign that the Company allowed rebates of from 40 to 50 per cent. to favored persons.

### Garbage Disposal at East Orange

AFTER carrying the investigation of the garbage disposal problem to the point at which expert advice must be substituted for lay consideration, the Ordinance and Street Lighting Committees of the East Orange, N. J., City Council have been empowered to call in an engineering authority, whose report will form the basis of further discussion. The indications are that the city will adopt direct methods of disposal, in preference to negotiating with a company, and as little encouragement was given to the suggestion of a municipal piggery, the choice will be between reduction and incineration.

### Municipal Ownership at Port Arthur

PORT ARTHUR, Ontario, Canada, is prospering through municipal ownership of electric light, electric railway and telephone service. On the electric light plant the city last year paid off \$2,676.84 in debentures and interest, leaving a net profit of \$11,840.12. For the electric railway, \$11,412.20 was paid off in debentures and interest, leaving \$10,179.51 net profits, while on the telephone service \$1,542.08 was liquidated in debentures and interest, with a net profit of \$2,301.10.



## MOSQUITOES IN NEW JERSEY

**Declared a Menace to Health Over One-Third of State—  
Conference Committee Urges Extermination  
—Approximate Cost, \$315,000**

RESOLUTIONS declaring that "salt marsh mosquitoes are a nuisance, a menace to health, a factor adversely affecting the value of lands, and a source of great annoyance to laborers working out of doors," were recently adopted at Trenton by the legislative committee of the New Jersey Conference Committee on Mosquito Extermination. The Governor and legislators were also urged to give the financial aid of the State to abolish the breeding places of the pest.

The report of the committee upholds the opinion of Dr. John B. Smith, State Entomologist, that all breeding places within the State can be eliminated by drainage at a cost of \$315,550. The report continues:

"New Jersey contains 7,514 square miles (land surface), or 4,809,218 acres. On the assumption that the salt marsh mosquito may become a pest twenty miles inland, we find that more than one-third of the State, or 2,000,000 acres, is affected by the salt marsh mosquito nuisance. It is worthy of note that these 2,000,000 acres are inhabited by more than 80 per cent. of the entire population of the State. With the salt marsh mosquito nuisance eliminated, the value of these 2,000,000 acres would surely increase to the amount of \$5 per acre, average. Thus there would be an addition to the value of lands in the State of \$10,000,000. With a tax rate of 1 per cent. this would add to the taxes payable within the State \$100,000 every year thereafter. Dividing the whole cost of doing the work by the 2,000,000 acres named would amount to 17 cents per acre. Dividing the total cost by the population of the State the cost would be 18 cents per individual."

### Milwaukee Grade Crossings

THE grade-crossing problem, which has kept the city of Milwaukee, Wis., in a tumult for the past decade, reached final solution recently at a secret meeting between city officials and representatives of the railroad. The railroad representatives accepted an ordinance requiring the elevation of a spur track, and both the main line and spur track ordinances will now be acted upon by the City Council.

### The Lighting of Pittsburg

THE Select Council of Pittsburg, Pa., has concurred in the resolution passed by the Common Council requesting the Mayor to notify the Allegheny County Light Company that it must furnish city lighting at seventy-five per cent. of the rate charged private consumers. This is in accordance with the franchises held by the company.

### No More Wooden Sidewalks

WOODEN sidewalks at Niagara Falls, N. Y., will be abolished, if a revision in the ordinance is made as proposed by the Committee on Ordinances of the City Council.

The numerous actions for damages, brought against the city on account of defective sidewalks, together with a report of Superintendent of Streets Canavan on their dangerous condition, caused prompt action to be taken by the Committee. The ordinance provides that no wooden sidewalks shall be built, and that existing wooden sidewalks shall be removed and replaced by stone or granolithic. The laying of cinder or gravel walks is also provided for.

### A Toledo Building Ordinance

A NEW building ordinance is being considered by the City Council of Toledo, Ohio. It is a comprehensive document, 40,000 words in length, covering every phase of construction from plain wood to reinforced concrete. John W. Lee, Chief of the Inspection Department, is author of the measure, which required several months of preparation. He obtained copies of the ordinances in force in all the principal cities of the United States, from which he compiled the best points applicable to local conditions. The proposed ordinance has received the approval of City Solicitor Northup.

### A Decision Against Transfers

THE Supreme Court of New Jersey has dismissed the mandamus proceedings begun by the city of Newark to compel the Traction Company to give transfers in accordance with the terms of its franchise. The court sets up the principle that the contract is not enforceable by the city, but an individual who is refused a transfer may sue the Company. The city might also obtain a decision enforcing the contract by an application to the Court of Chancery.

### Perth Amboy, N. J., Budget

THE budget of Perth Amboy, N. J., for the fiscal year beginning March 1, provides for an expenditure of \$151,300, an increase of \$25,550 over last year. Nearly every account receives an increase, and it will be necessary to raise the valuation on property, unless the Hillery act, which fixes a maximum tax-rate, is repealed. The schools get \$64,700, or \$16,400 more than last year, for maintenance; while \$17,000, or \$2,000 more than last year, will be expended on streets and roads; \$9,500, or \$4,500 more than last year, is devoted to the Fire Department, and \$4,000, or \$900 more than last year, to the Washington street sewer.

### Kalamazoo Street Railways

MAYOR WALTER R. TAYLOR, Kalamazoo, Mich., has taken the first step toward the municipalization of all street railways entering the city. He proposes the construction of a loop line, to be used in common by all interurban lines, and the establishment of a Joint Union Station somewhere on the loop, and of a subway to be built under the Michigan Central Railroad, on Rose street. The franchise provides that these improvements, to cost about \$100,000, shall be built by private capital, the city retaining power to acquire the property on the expiration of the franchise.

# MUNICIPAL JOURNAL AND ENGINEER

Published every Wednesday by  
THE MUNICIPAL PUBLISHING COMPANY  
Flatiron Building, Madison Square,  
New York City

Telephone, 6723 Gramercy, New York.

Entered as second-class matter, January 3, 1906, at the Post Office at New York, N. Y., under the Act of Congress of March 3, 1879.

## TERMS OF SUBSCRIPTION, PAYABLE IN ADVANCE

United States and possessions, Canada, Mexico and Cuba, \$3.00 per year  
All other countries, 4.00  
Make all checks payable to The Municipal Publishing Company.

Our readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

NEW YORK, MARCH 14, 1906.

## Gas in Philadelphia

THE MUNICIPAL JOURNAL AND ENGINEER of November last contained a review (page 199) of the past history of Philadelphia's gas undertaking, with a statement of prospective difficulties and opportunities. These latter are now to be grappled with in the interest of the citizens, an ordinance having been introduced in Select Council, on February 15, calling for an investigation of the accounts of the United Gas Improvement Company. This is intended to be the first steps towards determining the probable cost of redeeming the works and placing them under the direct control of the city, a clause in the lease enabling the city to take this step on the last day of next year, when the first ten years of the lease expires, with six months' notice required.

Those who studied the article referred to above will have noted that, even with the strictest determination to resume control of the undertaking, the city will have an arduous task before it, owing to the hold secured by the company. The city is compelled, by its lease, to reimburse the company for all expenditures on betterments, together with interest at 6 per cent., in case the lease is terminated as foreshadowed by the ordinance. These expenditures have never been audited, and may, it is said, aggregate anything between \$7,000,000 and \$15,000,000, the vagueness of the terms and the facility with which "maintenance charges" may have been debited to "betterments" being responsible for this uncertainty. Mayor Weaver, it is known, desires to redeem the works, either for direct operation by the city or for re-leasing to the present company or others, a substantial cash payment for the franchise being, in the latter event, a *sine qua non*. The new ordinance, to which an appropriation of \$5,000 is appended, will at least enable him to see how onerous the financial obligations of the lease may be, fairly accurate knowledge in this respect being indispensable to a study of the situation.

## A Governor's Warning

GOVERNOR CURTIS GUILD, of Massachusetts, included the following admonition in his inaugural address: "Prosperity, as well as adversity, breeds evil. The rapid accumulation of wealth has led to a lavish use of money in elections. This increase in the use of money is in this Commonwealth confined to no party, district or variety of election. The uses to which much of this money is put are not in themselves corrupt. The spending of scores of thousands of dollars on posters and newspaper advertising is not corrupt itself; but when a citizen, asked by his fellow citizens to take public office, is forced to contemplate such huge expenditures as a necessity, the obvious result is to drive the man of modest means from public life. The parsimony of the United States makes the richest nation in the world the only one that cannot be represented, thanks to the expense of the position, by a poor man as ambassador to a foreign court. Franklin could not afford to go to France to-day. Let us not in Massachusetts make it impossible for some future Samuel Adams to be a candidate for Governor."

## The Height of Buildings

A BILL before the Massachusetts Legislature aims at regulating the height of buildings, not by arbitrary methods but on principles enunciated by Prof. William T. Sedgwick of the Massachusetts Institute of Technology. It is intended that the bill shall apply to all buildings "hereafter erected or altered in the State of Massachusetts outside of the city of Boston," and that no building shall exceed one and one-quarter times the width of the street, a maximum of 125 feet being also named. Special provisions apply to cases in which the building abuts upon two or more streets—the widest being used as a basis—and to buildings set back by the owners from the normal frontage, the amount so set back being calculated as part of the street width. Similarly, an owner may carry his building to a greater height than that due to the regulations by setting back the upper stories proportionately to the increase of height. Streets less than forty feet wide are to be regarded as having that width, and wherever one side only of a street is to be built upon a width of eighty feet is to be assumed. Chimneys, towers, dormers and other specified features are not to come within the operation of the law.

## Secretary Shaw on Post Office Buildings

MINNEAPOLIS, MINN., may secure a new Postoffice building in accordance with the views of Leslie M. Shaw, Secretary of the Treasury, who believes that the work can best be performed in buildings adjoining railroad stations and separated from the other Federal bureaus. A one-story-and-basement building, with a ground area of 48,000 square feet, is proposed, which, it is estimated, can be built for \$800,000, with \$500,000 additional for a site. In time, it is believed, the post offices in all the large cities will be housed in separate buildings, leaving old buildings to be occupied by other branches of the government.



**FOR CIVIC IMPROVEMENT****Health and Housing Conditions at Washington Reviewed  
—New York Charity Organization Society Asks  
Legislation by Congress**

A CAMPAIGN for the improvement of housing and health conditions in Washington, D. C., has been inaugurated by the Charity Organization Society of New York, through its sub-committee at the National capital. Letters have been sent to every member of the Senate and House of Representatives, setting forth that "Washington is strong on asphalt, but it has no compulsory school attendance, and 10,000 children last year did not attend school; there are no laws against child labor, no special juvenile court, no all-the-year-round playgrounds and no adequate housing laws." Slum conditions as bad as those of Chicago and New York are declared to exist in certain sections of the city.

As representing those engaged in works of philanthropy in 300 American cities, the Society calls for prompt action by Congress. Especial attention is called to those measures which would improve housing and health conditions, which would conserve the home by preventing desertion, and protect childhood by requiring compulsory education. The need of play-grounds and of a juvenile court is strongly urged, as is a law prohibiting child labor. It is pointed out that deplorable conditions exist in alleys within sight of the White House, and that the authorities apparently are powerless through lack of legislation to deal with existing evils.

In order to upbuild the National capital as a model city, the Society urges permanent, progressive movements, such as are now being organized by residents of Washington. President Roosevelt has urged such advances in his messages to Congress and citizens elsewhere are urging local improvement in many towns and cities throughout the country. Housing reform, for instance, is making progress in Portland, Me., Los Angeles, Cal., New Orleans, Pittsburg, Chicago and other cities.

The Society will work in co-operation with an official commission recently appointed by the District Commissioners, and with a committee of the Washington Associated Charities.

**Minnesota Contests Over County Seats**

SEVEN Minnesota counties are engaged in contests over the location of the county seat, while in eight others preparations are being made for a similar struggle. Until fifteen years ago, the right to vote on the location of a county seat was obtained only by sanction of the Legislature, but under the present law the County Commissioners are required to call a special election when 60 per cent. of the voters at the previous election petition for a change. In Renville County, it took fifteen years and three elections to secure the location at Olivia, and Jackson County is now having its third fight, Lakefield being desirous of wresting the county seat from Jackson City.

Dakota County, adjoining St. Paul on the south, is the scene of the warmest campaign, the sixth in the history of the County. It is also the third time an effort has been made to change the county seat since Hastings was chosen in 1857, Farmington seeking the honor this time, as in 1868. The proposed construction of a new Courthouse building is the incentive for the present movement, and the citizens of both sections are making an active campaign.

**A Sea Wall at San Francisco**

THE State Harbor Commission of California has approved the plans, submitted by Chief Engineer Lot D. Norton, for the construction of an addition to the sea wall at San Francisco. It is estimated that 150,000 tons of rock will be required, furnished at the rate of 1,000 tons per working day, to complete the work in six months. The addition will extend from the end of the present new sea wall, foot of King street, 1,000 feet along the water front to a point east of Fremont street wharf. It will then follow a line to the middle of the big mail dock, which is to be destroyed. New piers will also be built from the new section of sea wall, parallel with the mail docks at the foot of Second street. Bids will be opened April 5, and actual work will begin within a month thereafter.

**A Winnipeg Water Report**

IN a report recently submitted to the City Council, H. N. Ruttan, City Engineer of Winnipeg, Canada, recites the history of the city's water supply and presents some interesting data. He gives the cause of low pressure, about which there has been much discussion, as due to the fact that taps are left running to prevent them from freezing, and also because of 500 additional services recently put in. It is recommended that water users cover the pipes with non-conducting material, keeping the taps shut as much as possible.

"Trouble from low pressure in the upper stories of tenements," the report states, "may be relieved by placing storage tanks of wood, lead lined, or of galvanized iron above the highest fixtures."

**Maryland Road Building**

ROAD improvements in Maryland are being carried on at a rapid rate and residents of the State may soon be able to boast of some of the finest roads in the country. Surveyors are at work in all sections on plans for additional roads. At Hagerstown, the County Commissioners adopted the road law providing for the appointment of twenty-five Road Supervisors, or one for each district, instead of four hundred supervisors, as under the present law. The new law will be sent to Annapolis for action by the State Legislature. Residents in the vicinity of Kenilworth and Tuxedo have called the attention of the County Commissioners, at Upper Marlboro, to the necessity of changes in plans made by the Pennsylvania Railroad Company for improvements in that section. It is claimed that they are not in accord with the general plan.

### City Brevities

NATCHEZ, MISS., has under consideration an ordinance creating the office of City Electrician.

TOLEDO, OHIO, is to consider an ordinance regulating the consumption of smoke emitted by the burning of soft coal.

CANTON, OHIO, proposes to construct a boulevard between that city and Massillon, and is promoting the necessary bill in the Legislature.

VANCOUVER, B. C., has under discussion a proposal to install a municipal lighting plant in connection with its gravity water supply system.

LONDON, ONT., is to extend the water meter system on the basis of the experience thus gained; a revision of water charges will probably be effected.

PITMAN GROVE, N. J., is in the enviable position of having several lighting companies seeking to secure a franchise for serving the Borough.

ATLANTA, GA., is planning extensive additions to its water plant, including new filters, a clear water basin and pumps, at an estimated cost of \$500,000.

LEXINGTON, KY., requires more room for Federal offices, and prospects are bright for the passage of a bill by Congress for building an addition to the Postoffice.

TACOMA, WASH., calls upon the local street railway company to lay all ties in a bed of concrete as a protection from vibration and consequent damage to asphalt paving.

DALLAS, TEX., has consulted an expert, Chester B. Davis, as to the acceptance or otherwise of a new concrete conduit, found to leak at the rate of a million gallons a day.

GENEVA, N. Y., through its Board of Public Works, has ordered all telegraph, telephone and electric light wires off all streets, where the new conduit is laid, by March 31.

LONG BRANCH, N. J., has decided to pay the Atlantic Coast Sanitary Company an annual sum, rising from \$8,000 to \$10,000, for ten years, for garbage collection and disposal.

WEST SENECA, N. Y., recently voted down a \$15,000 appropriation for a paid Fire Department. Efforts are now being made to revive the Lackawanna Volunteer Hose Company.

CINCINNATI, OHIO, will install fifty additional gas and electric lights, notwithstanding the objection of Mayor Dempsey, the City Council having passed the light ordinance over his veto.

FERGUS FALLS, MINN., having voted \$89,000 (the Company's price) for the waterworks system, finds the plant "entirely inadequate and in bad condition"; it is valued by an expert at \$25,000.

ST. PAUL, MINN., Health officials are making a campaign for a better milk supply. Herds are being inspected and the sanitary regulations governing the stables and milk cans are being enforced.

GADSDEN, ALA., may now proceed with the construction of its own waterworks, the State Supreme Court having handed down a decision that the voting of \$150,000 improvement bonds was legal.

COLUMBUS, OHIO, is meeting with opposition to a proposed ordinance placing all sewer work, between the main sewer and the curb or lot lines, under direct city control, so as to secure better paving reconstruction.

AUSTIN, TEX., is considering a proposition to compel citizens who improve the streets in front of their residences to have the work done on uniform lines, according to plans prepared by the City Engineer.

ALAMEDA, CAL., is far from unanimous on granting, in a new charter, power to a central authority in appointing officials; the question of having all city officers elected by the people is being discussed by citizens.

LEAVENWORTH, KAN., will secure a reduction in the price of natural gas from thirty to twenty-five cents, as paid at Kansas City, Kan., although Leavenworth is ten miles further away from the base of supply.

CINCINNATI, OHIO, will add 2,000 acres to its present park area, if the plans of Architect A. O. Elzner, submitted to Mayor Dempsey, are adopted. The improvements would cost from \$5,000,000 to \$6,000,000.

OMAHA, NEB., is discussing an ordinance for the regulation of the Street Railway Company's service, providing for universal transfers, the sale of twenty-four tickets for one dollar, and three-cent fares for persons obliged to stand.

CLYDE, N. Y., must pay, in future, \$2,350 per year instead of \$2,000 hydrant rental, and private consumers, a minimum rate of \$7, instead of \$5, the claim being made by H. N. Smith, representing the Water Company, that the plant is paying only three per cent. on its \$60,000 bond issue.

CHICAGO, ILL., will shortly have 1,000 more policemen to assist in ending the "reign of terror" which has prevailed in that city. This increase has been voted by the City Council, which appropriated \$472,000 for salaries to the end of the year. In connection with this step, saloon licenses have been increased from \$500 to \$1,000 per annum.

SYRACUSE, N. Y., will have a Park Board similar to those established in a number of other cities. Attorney Nottingham has prepared a bill creating the Board, which provides for the appointment of five members for five years each, to serve without compensation and not hold other municipal office. The Board shall have power to change streets and acquire lands in or near the city, subject to the approval of the Common Council.

DETROIT, MICH., will have a double-track subway running under the downtown thoroughfares and connecting with two hundred miles of additional surface lines, if plans of a syndicate of Eastern capitalists mature. Mayor George P. Codd sanctions the enterprise, which, he believes, will bring about three-cent fares. The proposed franchise provides that the people shall vote on the ordinance at the spring election. If approved, it is to be accepted not later than May 10.



## Public Affairs

THE PITTSBURGH, PA., CITY COUNCIL, is considering the abolition of the office of Delinquent Tax Collector, and the creation of a Revenue Bureau.

SUPERIOR, WIS., has a typhoid fever epidemic, caused, City Physician Rene believes, by infected water, samples of which are being tested. The city authorities and the water company are making efforts to find the source of contamination.

THE KING COUNTY GOOD ROADS ASSOCIATION of the State of Washington has sent a memorial to Congress, urging the enactment of laws to encourage a National good roads movement for developing National trunk line highways and improving State roads.

COL. W. W. MOORE, President of the National Good Roads Association, is authority for the statement that within a year the Association will commence work on a great highway extending across Ohio from the Pennsylvania to the Indiana line, to be constructed at a cost of \$1,500,000.

MAYOR JOHN F. FITZGERALD, OF BOSTON, MASS., has submitted the annual budget, providing for appropriations aggregating \$17,537,470, an increase over last year of \$266,823. The Mayor rejected the appropriation of \$500,000 for street improvements, and will recommend that this sum be raised by a city loan.

THE LOUISVILLE, KY., BOARD OF PUBLIC WORKS has a comprehensive plan for improving the streets by dividing the city into twelve districts, each in charge of an inspector, whose duty will be to report upon needed repairs. Especial attention will be given to reconstructing macadam streets, and the entire city will be thoroughly cleaned.

THE WATERWORKS AT NIAGARA FALLS, N. Y., are being improved by Superintendent Callahan and his assistants. It was found necessary to repair the quadruplex pump, which has a capacity of 1,500,000 gallons, and to strengthen the plant in other respects. Much of the work has been finished, but it will require several weeks to complete the repairs.

AN EXAMPLE OF OVER-CAPITALIZATION is furnished by the street railways of Munich, the Bavarian capital, which have been acquired from the proprietary company by the city. The latter undertakes to pay interest on stock, at 11 per cent. per annum, until June 30 next, when it takes over the entire plant on payment of \$174,000. There was a deficit of \$31,600 in 1904-5.

THE CITY OF STOCKTON, CAL., having voted a \$160,000 bond issue for the establishment of a municipal lighting business, a taxpayer entered suit against the officials to enjoin them from proceeding with the work. The Supreme Court of California has decided that the business would be in violation of the city's charter in so far as the sale of light to private consumers is concerned.

## Trade Notes

The Power and Mining Machinery Company of Cudahy, Wis., (suburb of Milwaukee), has recently closed a contract for a complete rock crushing plant to be erected for the Little Falls Stone Company, Little Falls, N. Y., embodying the latest ideas in modern crushing practice. The plant will be built throughout in accordance with designs made by the Power and Mining Machinery Company. A feature of special interest is the enormous size of the main crusher, a No. 10 McCully, the largest machine of its kind ever built. Its weight will be nearly 200,000 pounds and its capacity, under favorable conditions, 700 tons of crushed stone per hour, or 7,000 tons per ten-hour day. The plant will also include four No. 6 McCully crushers for crushing the rejections from the No. 10 crusher; one No. 10 elevator, 60 feet long; one No. 9 elevator, 67 feet long; two 60-inch by 15 feet rejection screens, and two 60-inch by 35 feet sizing screens of special design.

The product from this plant will be used for ballast, railroad, and concrete work. The dust and fine material accruing from the crushing of the stone is to be used for making cement bricks, the manufacture of which will be carried on in a near-by plant owned by the same company and operated in its interests by General Manager Mr. H. A. Shaper, formerly manager of the Mohawk Valley Stone Co.

THE CROCKER-WHEELER COMPANY, Manufacturers and Electrical Engineers, of Ampere, N. J., anticipates an extensive opening for water power development as the result of the decision, in favor of the State of Illinois, in the long-pending suit brought against it by the State of Missouri, based upon the alleged pollution of the Mississippi River by the sewage of Chicago. A total of 40,000 horsepower is available at Lockport, Ill., the lower end of the Sanitary and Ship Canal, where four 4,000 K. V. A. three-phase, sixty-cycle, 6,600-volt alternating current generators, now under construction in the Crocker-Wheeler shops, will be set up.

THE STUDEBAKER BROS. MANUFACTURING CO., of South Bend, Ind., has issued illustrated catalogue No. 253, giving full details, down to a description of component parts, of the street sprinklers, sweepers and dump-wagons turned out by this firm of specialists. Made in all sizes, and with special devices to meet varying conditions, these appliances should fill all wants, while the completeness of the present catalogue should facilitate reference and ordering by all interested in this field.

MESSRS. FREDRICKS & FREDRICKS have opened an office in the Von Phul & Gordon Building, Lake Charles, La., where they will act as Manufacturers' Agents in giving information regarding the procuring of materials. The members of the firm believe that their thorough acquaintance with the surrounding country should be of value to contractors bidding on proposed work.

## THE WEEK'S CONTRACT NEWS

RELATING TO MUNICIPAL AND PUBLIC WORK—THE CONSTRUCTION FIELD—PROPOSALS AND CONTRACTS—  
SEWERAGE AND WATER SUPPLY, STREET IMPROVEMENT AND LIGHTING—FIRE EQUIPMENT  
—BUILDINGS

**STREET IMPROVEMENTS**

Birmingham, Ala.—Ordinances have been approved for paving portions of Avenue A, Twenty-third street and Powell avenue.—George B. Ward, Mayor; J. C. Murray, City Clerk.

Huntsville, Ala.—Bonds have been issued and plans are ready for paving a number of streets. Vitrified brick may be used.

Montgomery, Ala.—The City Council has decided to issue bonds for paving streets; also for sidewalks.

Oakland, Cal.—An ordinance before the City Council provides for extending the boulevard on the East Side of Lake Merritt. The cost is estimated at \$15,000.

Waterbury, Conn.—The Board of Public Works has plans and specifications for paving Abbott avenue, South Main street, South Riverside street, Washington avenue, Dublin and other streets. Bonds may be issued.

Live Oak, Fla.—Bonds for \$75,000 for street improvements will shortly be sold.

Lake Forest, Ill.—Plans are being prepared for macadamizing Sheridan road and Deerpath avenue.

Springfield, Ill.—Ordinances have been approved for constructing sidewalks in eight streets.

Auburn, Ind.—Proposals will be opened, April 1, for paving Eighth and Ninth streets with asphalt.—F. R. McDowell, City Engineer.

Evansville, Ind.—The Board of Public Works has secured preliminary plans for paving several streets.

Terre Haute, Ind.—The Board of Public Works has preliminary plans for paving Eighth street with brick.

Muskogee, I. T.—There is a movement to build an asphalt roadway between Fort Gibson and Muskogee, I. T. A \$100,000 bridge over the Arkansas river is included in the scheme.

Davenport, Iowa.—It is estimated that 60,000 square yards of paving will be laid this spring. Bids are being received.—Thomas Murray, City Engineer.

Ottumwa, Iowa.—Plans have been prepared for paving with brick a number of streets.—F. A. Minock, City Clerk.

Fort Scott, Kan.—The City Council is considering plans for paving National avenue.

Ottawa, Kan.—Portions of Fourth street will be paved with brick on a sand foundation.—J. H. Bell, City Clerk.

Latonia, Ky.—The City Council is still considering the proposed paving of several streets.

Newport, Ky.—Plans have been prepared for paving several streets.

Paducah, Ky.—Fifteen blocks will shortly be improved. Some paving will be done.—City Engineer Washington.

Lake Charles, La.—An ordinance has passed the City Council authorizing bids for paving portions of Charles street. Proposals will be opened, March 20.—C. H. Winterhalter, Mayor; S. O. Shattuck, City Clerk.

New Orleans, La.—A resolution is before the City Council for a \$20,000,000 bond issue for street improvements.

Ann Arbor, Mich.—The cost of paving William street with brick is estimated at \$20,000. Other material may be substituted.—City Engineer Groves.

Grand Rapids, Mich.—Proposals are asked, until March 24, for paving Canal, Scribner and West Bridge streets; approximately 62,000 square yards of streets.—L. W. Anderson, City Engineer.

Lansing, Mich.—The City Council is considering plans for paving Michigan avenue; estimated cost, \$55,878; also for improving Franklin avenue at a cost of \$17,520.—H. A. Collar, City Engineer.

Duluth, Minn.—Preliminary plans for paving several streets involve an expenditure during the year of \$127,000.—Thomas F. McGilvray, City Engineer.

Minneapolis, Minn.—Plans and specifications for paving a number of streets are before the Board of Public Works.

St. Paul, Minn.—Proposals will shortly be asked for paving Edgerton street.

St. Paul, Minn.—It is reported that Fifth street will shortly be paved with sand-lime brick.

McHenry, Miss.—An ordinance is before the City Council authorizing a bond issue for street improvements.

Omaha, Neb.—The paving of Hamilton street has been decided upon. Plans are being prepared.

New York, N. Y.—The Board of Estimate is considering a proposed \$1,200,000 bond issue for improving streets.

Niagara Falls, N. Y.—The Board of Public Works will procure preliminary plans for improving Buffalo avenue.

Salamanca, N. Y.—An election will be held to decide the question of issuing \$32,000 in bonds for paving.—C. Buckmaster, Town Clerk.

Akron, Ohio.—Plans are about ready for paving Perkins street.

Cambridge, Ohio.—Proposals are asked, until March 22, for grading and paving Fourth street, North Sixth, North Eighth and North Tenth streets; also Steubenville

avenue, aggregating 40,000 square yards of vitrified brick pavement, and 8,000 square yards of asphalt.—O. M. Hoge, City Engineer.

Canton, Ohio.—Plans are being prepared for improving Blaine avenue and West Lake street.

Columbus, Ohio.—The City Council has ordered the preparation of plans for paving Felton avenue; also to improve Wall street and portions of 14th street.

Dayton, Ohio.—Plans have been prepared for paving West Third street with brick; estimated cost, \$1.70 per square yard.—City Engineer Kline.

Ironton, Ohio.—The Board of Public Service has ordered plans for paving South Fourth street with vitrified brick.

Lorain, Ohio.—A resolution has been approved for the paving of Everett street. Asphalt, brick or creosote blocks will be used.

Warren, Ohio.—An ordinance has been approved for paving portions of East Washington and Scott streets.

Harrisburg, Pa.—The City Council is considering a number of street paving ordinances.

Nashville, Tenn.—The question of issuing \$150,000 in bonds for street improvements will be decided at an election, May 3.

El Paso, Texas.—Proposals are invited, until March 28, for paving all streets in local district No. 1. The materials proposed are sheet asphalt, rock asphalt, vitrified brick and bitulithic.—Charles Davis, Mayor.

Mineral Wells, Texas.—The question of issuing \$12,000 in bonds for street improvements will come up at an election, May 1.

Green Bay, Wis.—The City Council has authorized the paving of Main, Washington and Pine streets. Proposals for asphalt paving will be asked, until April 2.—J. Busch, City Treasurer.

Superior, Wis.—It is reported that bids will be received, March 30, for paving Winter street; approximately 15,435 square yards of material will be required.—S. M. White, Engineer.

Superior, Wis.—Preliminary plans are being prepared for macadamizing North 11th and North 13th streets; also portions of North 21st street.—S. M. White, City Engineer.

Superior, Wis.—The Board of Public Works will receive bids, March 14, for constructing approximately 11,300 square yards of macadam roadway along North 7th street.—S. M. White, City Engineer.

Winnipeg, Man., Canada.—Proposals will



be received, until March 27, for furnishing from 1,000 to 3,000 tons of asphalt for street paving at Winnipeg.—C. J. Brown, City Clerk.

### SEWERS

Little Rock, Ark.—The Peay Construction Company has been awarded the contract for building sewers in local district No. 36; estimated cost, \$8,073.

Truckee, Cal.—The question of issuing bonds for constructing a sewerage system will be decided at an election, April 2.

Vacaville, Cal.—The citizens have voted to issue \$25,000 in bonds for constructing sewers.

Live Oak, Fla.—It is proposed to issue \$35,000 in bonds for constructing sewers.

New Orleans, La.—Proposals will be received, until May 8, for constructing 80 miles of sewers, ranging in size from 8 to 27 inches. About 700 manholes and 325 flush tanks will be required.

Beverly, Mass.—Preliminary surveys are being made for constructing additional sewers.

Boston, Mass.—Bids will be received, until March 29, for constructing 1,600 feet of brick and concrete sewers in Canal, Market and Portland streets.—B. Leighton Beal, Secretary, Boston Transit Commission.

Peabody, Mass.—Preliminary plans have been prepared for a sewerage system, to cost approximately \$246,900. The city will petition for legislative authority to issue \$200,000 in bonds.—F. A. Barbour, Engineer; Charles H. Goulding, Chairman, Sewerage Commission.

Menominee, Mich.—Proposals will be received, until March 19, for constructing sewers in several streets.—Frederick S. Norcross, City Clerk.

St. Paul, Minn.—Plans have been prepared for building a new sewer in Page street.

St. Paul, Minn.—The city contemplates building a sewer in Victoria street.

McCook, Neb.—It is reported that \$25,000 in bonds will shortly be issued for constructing sewers.

Geneva, N. Y.—The Board of Public Works is considering preliminary plans for building sewers in Seneca street, Linden to Exchange street; also for sanitary sewers in Nursery avenue, South West and William streets.

Rochester, N. Y.—An ordinance has been approved for constructing sewers along South avenue.

Ashley, N. D.—Bonds will be issued for constructing sewers.

Ashtabula, Ohio.—Bids will be opened, March 17, for constructing a sewer in Whitlam street; also in East Camp, West Camp and Hiawatha streets. Approximately 3,000 feet of pipe will be required.—A. J. Richardson, City Clerk.

Barberton, Ohio.—Plans are being dis-

cussed for building a sewer in West Barberton.

Dayton, Ohio.—Proposals are invited, March 19, for constructing sewers in district No. 8; approximately 50,000 feet of sewer pipe will be required.—William F. Miller, City Clerk.

Elyria, Ohio.—Proposals will be opened, March 16, for constructing a main sewer on the West Side; estimated cost, \$18,000.—C. M. Theobald, City Engineer.

Urbana, Ohio.—The Board of Public Service has asked the City Council to authorize the construction of a main sewer; also of branch sewers; estimated cost, \$10,000.

Allentown, Pa.—It is reported that the city will expend \$10,000 for building sewers.—Dr. A. J. Yost, Mayor; City Engineer Bascom.

McKeesport, Pa.—Bonds for \$70,000 may be issued for constructing additional sewers.—C. E. Soles, City Comptroller.

Portsmouth, Va.—Bonds for \$110,000 will shortly be issued for building additional sewers, especially in the Fifth Ward. Plans are being considered by the city Sewerage Commission.

Dayton, Wash.—An ordinance has been approved for building sewers in several districts.

Vancouver, Wash.—Plans have been prepared for constructing a main sewer, approximately 2,200 feet in length.

Wheeling, West Va.—The City Council is considering the issue of bonds for sewer extensions.

Williamson, West Va.—It is proposed to build sewers at an estimated cost of \$9,000.

Medicine Hat, Alb., Canada.—Preliminary plans have been prepared for building sewers.—Mayor Forster.

Belleville, Ont., Canada.—The City Council has asked legislative authority for constructing a sewerage system. Preliminary plans have been prepared.

### WATER SUPPLY

Tuskaloosa, Ala.—It is reported that the city may offer a thirty-year franchise for the construction of new waterworks. Dissatisfaction has arisen with the local water service.

Fort Smith, Ark.—Preliminary plans are under consideration for constructing municipal waterworks.

Russellville, Ark.—The City Council is considering plans for building waterworks.

Punta Gorda, Fla.—The city is considering a proposed \$18,000 bond issue for local improvements, to include repairs to the waterworks; also an electric light plant.

Atlanta, Ga.—Plans are being considered for improving the waterworks at an estimated cost of \$500,000.

Jackson, Ga.—It is reported that bonds for \$19,000 will be issued for constructing waterworks.

Chicago, Ill.—Proposals will be opened, March 20, for constructing all floors in the

Thirty-ninth street pumping station, Lake Michigan, and 39th street.

Evanston, Ill.—New water mains will be laid in Colfax and other streets.

Seneca, Ill.—The proposed bond issue for constructing waterworks has been approved.

Marlow, Ind. Ter.—Bids will be received, March 21, for constructing waterworks; also an electric-light system.—W. B. Anthony, Mayor.

Belle Plaine, Iowa.—Bids will be opened, March 24, for building waterworks, to include a pumping station.—F. E. Van Dike, City Clerk.

Galena, Kan.—Bonds may be issued for the purchase of the local waterworks.

St. Marys, Kan.—The City Council has approved plans for constructing waterworks. A standpipe will be erected.

Paducah, Ky.—An election will shortly be held to decide the question of issuing bonds for waterworks.

Donaldsonville, La.—Proposals are invited, until March 21, for improving the waterworks. Approximately 20,000 feet of six, eight and ten-inch pipe will be required.—Charles Maurin, Mayor.

New Orleans, La.—Proposals are asked, until May 15, for furnishing 100 miles of cast iron water pipe, aggregating 10,000 tons.—F. S. Shields, Secretary, Sewerage and Water Board.

New Orleans, La.—Proposals are invited, until May 15, for laying approximately 100 miles of cast iron water pipe, mainly from 4 to 24 inches in diameter.—George G. Earl, Superintendent, Water Department.

Waltham, Mass.—Plans are ready for constructing the proposed new reservoir; estimated cost, \$31,000.—City Engineer Brewer.

Saginaw, Mich.—An election will be held, April 2, to decide the question of issuing bonds for building new waterworks.

Sault Ste. Marie, Mich.—The City Council has directed the installation of water meters.

Duluth, Minn.—Preliminary plans are being considered for an improved water supply.

Pine City, Minn. The proposed bond issue for constructing waterworks has been approved.

St. Paul, Minn.—New water mains will be laid in several streets.

Shelbina, Mo.—Mayor Ford is considering preliminary plans for building waterworks; estimated cost, \$22,389.

Trenton, Mo.—Bonds for \$80,000 for building new waterworks will shortly be issued.

Glendive, Mont.—Proposals are asked, until March 19, for iron water pipe and special castings; also for hydrants and valves.

Wildwood, N. J.—Preliminary plans are being considered for a high-pressure water service.

Ballston Spa, N. Y.—A citizens' committee is considering the matter of improved

water service; also of high pressure for better fire protection.

Wolcott, N. Y.—Plans are being considered for constructing waterworks, to cost approximately \$25,000.

Beach City, Ohio.—It is proposed to install waterworks.

Cincinnati, Ohio.—The Board of Public Service will receive bids, until April 2, for a quantity of water pipe and special castings.—M. J. Keefe, Clerk.

Ironton, Ohio.—Bids will be received, until March 20, for the purchase of 250 lengths of 6-inch iron water pipe; also 50 lengths of 4-inch pipe.—D. H. Clark, Superintendent, Waterworks.

Newburg, Ohio.—It is reported that bonds for \$44,000 will shortly be issued for extending the water system.

Orrville, Ohio.—The City Council is considering preliminary plans for improving the waterworks; estimated cost, \$5,000.

Painesville, Ohio.—The matter of issuing \$25,000 in bonds for constructing filter beds is under consideration.

Pittsburg, Pa.—An ordinance has been approved for the purchase of 16,000 water meters at an estimated cost of \$140,000.

Jellico, Tenn.—A franchise to build waterworks has been awarded to H. H. Carr, Johnson City, Tenn.

Laramie, Wyo.—An election will be held to decide the question of issuing \$80,000 in bonds for waterworks improvement.

Edmonton, Alta., Canada.—Bids are asked, until March 20, for 500 tons of iron water pipe and special castings; also for hydrants and gate valves.—George J. Kinnaid, Secretary-Treasurer.

Winnipeg, Man., Canada.—Proposals will be received, March 26, by the Fire, Water and Light Committee, City Council, for a quantity of water pipe and water meters.—R. N. Ruttan, City Engineer; C. J. Brown, City Clerk.

### PUBLIC LIGHTING

Fayetteville, Ark.—A lighting franchise has been asked by C. A. Reese, who proposes to erect a gas plant.

Pasadena, Cal.—The city will build an electric-light plant. The question of issuing \$125,000 in bonds will be submitted to the voters at an early election.—William Waterhouse, Mayor; Heman Dyer, City Clerk.

Miami, Fla.—It is reported that the Miami Street Railway Company will shortly erect an electric-light and power plant.

Plymouth, Ind.—A franchise has been granted Daniel A. Douglas, Angola, Ind., for city lighting by gas lamps. A plant will be erected before December 1.

Caldwell, Kan.—The City Council will submit to the voters at the spring election the question of issuing \$15,000 in bonds for constructing an electric-light plant.

Osage City, Kan.—An election will be

held, March 16, to determine the question of a bond issue for improving the municipal lighting plant.

Sturgis, Mich.—It is reported that C. A. Freeland, Goshen, Ind., will build an electric-light plant at Sturgis.

Bradshaw, Neb.—It is proposed to improve the electric-light plant.

Grand Island, Neb.—An election has resulted in favor of issuing \$35,000 in bonds for building a municipal lighting plant.—Ed. Hooper, City Clerk.

Buffalo, N. Y.—An estimate of \$250,000 for erecting a municipal electric-light plant is included in the annual budget of City Comptroller Zimmermann.

Dayton, Ohio.—The city of Richmond, Ind., will shortly improve its electric-lighting plant. E. C. Reade, Engineer, Dayton, is preparing plans.

Massillon, Ohio.—It is reported that preliminary plans will be prepared for constructing an electric-light plant.—J. U. Douglass, City Auditor.

Paulding, Ohio.—An election will be held, March 19, to decide the question of a \$10,000 bond issue for erecting an electric-light plant.

Watonga, Okla. Ter.—Proposals for erecting the municipal lighting plant have been rejected.

Greensburg, Pa.—The County Commissioners are considering plans for constructing an electric-light plant.

Bamberg, S. C.—Proposals are asked, until March 15, for erecting an electric-light plant complete.

El Campo, Texas.—The Town Council has granted a franchise for the erection of an electric-light plant; also waterworks.

North Toronto, Canada.—It is reported that plans are being considered for constructing a municipal lighting plant.

Winnipeg, Man., Canada.—An ordinance has been adopted appropriating \$650,000 for building an electric-light plant.

### FIRE DEPARTMENT SUPPLIES

Indianapolis, Ind.—A new 2-story brick fire station will shortly be erected at a cost of \$10,000.—Frank Noll, Secretary, Board of Public Works.

Flemingsburg, Ky.—It is proposed to issue \$5,000 in bonds for erecting a fire station. The matter will come up at an early election.

Flemingsburg, Ky.—Apparatus may be purchased for the Fire Department.

Monroe, La.—Bids will shortly be considered for erecting an engine house. F. P. Milburne, Columbia, S. C., has plans.

Albert Lea, Minn.—Proposals will shortly be asked for the purchase of a chemical fire wagon; also for a hose cart.

Deep River, Minn.—A fire company is being organized. Fire apparatus may be purchased.

Red Lake Falls, Minn.—New uniforms will be purchased for the Fire Department.

Binghamton, N. Y.—The Fire Department will shortly purchase a new fire engine.

Canisteo, N. Y.—A fire company is being organized.—C. D. Hillborn, Secretary.

Jamestown, N. Y.—The City Council has authorized the purchase of an extension fire ladder.

Jasper, N. Y.—A new fire engine and other apparatus will shortly be purchased.

Lockport, N. Y.—The village of Newfane, N. Y., will shortly establish a system for fire protection.

Columbus, Ohio.—Ordinances before the City Council provide for erecting two engine houses at an aggregate cost of \$100,000. Bonds may be issued.

Elyria, Ohio.—The Board of Public Safety will receive bids, until March 28, for the purchase of an extension ladder truck and for one steam fire engine.—Clayton Chapman, Mayor; R. Moriarty, City Clerk.

Harrisburg, Pa.—An ordinance has been approved for purchasing a \$5,000 fire engine for the Susquehanna Company.—Augustus Garverich, Chief, Fire Department.

Newport, R. I.—The Naval Survey Board has petitioned for a fire engine, hose reel and other fire apparatus for the Naval Training Station, Newport.

Memphis, Tenn.—Bids will be obtained for the purchase of four new fire engines.

Richmond, Va.—A \$5,000 appropriation is available for purchasing fire apparatus for the South Side hose house.

Columbia City, Wash.—The City Council has authorized the purchase of a new chemical fire engine.

Shinnston, West Va.—There is discussion of plans for fire protection.

Cheyenne, Wyo.—The Fire Company has asked the City Council to purchase a chemical engine and other apparatus.

St. Boniface, Man., Canada.—Plans have been prepared for a new fire station at Goulet and Tache avenue, to cost \$8,000. Bids will shortly be asked.—Cecil Goddard, Town Engineer.

### PUBLIC BUILDINGS

Corona, Cal.—The School Board will issue \$35,000 in bonds for erecting a new school house.

Washington, D. C.—Proposals are asked, until March 26, for constructing the United States Post Office at Fresno, Cal.—James Knox Taylor, Supervising Architect, Treasury Department, Washington.

Washington, D. C.—Bids are invited, until March 22, for building three school houses on the White Earth Indian Reservation, Minnesota.—C. F. Larrabee, Acting Indian Commissioner, Interior Department, Washington.



Albany, Ga.—Baker County will erect a new Courthouse at a cost of \$25,000.

Carrollton, Ga.—The citizens have voted to issue \$30,000 in bonds for constructing a City Hall.

Lyons, Ga.—Plans having been approved for the new Toombs County Courthouse; bids will shortly be asked.—George C. Thompson, Architect, Atlanta.

Leroy, Ill.—Bonds for \$10,000 will be issued for erecting a school house.

Royal Center, Ind.—The citizens have voted to issue bonds for building a new school house.

Lindsay, Ind. Ter.—Plans will be prepared for erecting a \$10,000 school house. Bonds have been issued.

South McAlester, Ind. Ter.—Plans have been prepared for a new school building, to cost \$125,000.—Charles Page, Architect, Austin, Texas.

Salina, Kan.—The Board of Education has ordered the preparation of plans for a new school building, to cost \$12,000.

Fairmount, Minn.—The question of issuing bonds for erecting a school house will come up at an early election.

Laurel, Miss.—The contract for building the new High School has been awarded to B. F. Annis, Laurel, Miss., for \$17,988.

Meridian, Miss.—It is proposed to issue \$35,000 in bonds for school purposes.

Grant City, Mo.—A new High School will be erected at a cost of \$35,000.

Kansas City, Mo.—The Board of Education has authorized the payment of \$22,500 for the site of the new High School at Thirty-ninth and McGee streets.

Lexington, Mo.—Plans will be prepared by R. B. Berrie for a new school building; estimated cost, \$15,000.

Lincoln, Neb.—Plans are being prepared for erecting ten armory buildings in various State cities, to cost approximately \$180,000. Two of the buildings will cost \$50,000 each.—George A. Berlinghof, Architect.

Syracuse, N. Y.—Plans have been approved and bids will shortly be asked for building the new National Guard armory, Syracuse.

Wolcott, N. Y.—A site has been purchased for the erection of a new Fire Department building.

Dennison, Ohio.—The Board of Education will shortly sell \$50,000 in bonds for the erection of new school buildings. Plans are being prepared.

Lawton, Okla. Ter.—The cost of the proposed High School is estimated at \$50,000; and of the Fifth Ward building at \$15,000.

Shawnee, Okla. Ter.—The City Council has authorized an election to decide the question of a \$70,000 bond issue for erecting a school house; also for sewer construction.

Stillwater, Okla. Ter.—The matter of issuing bonds for erecting a new school building is under consideration.

Homestead, Pa.—The people will vote on the proposed \$150,000 bond issue for school purposes.

Milbank, S. D.—The citizens have voted to issue \$16,600 in bonds for erecting a new school house.

Smithville, Texas.—An election will be held, April 3, to authorize a \$60,000 bond issue for school construction.

Temple, Texas.—The School Board may issue \$20,000 in bonds for improving school buildings.

Salt Lake City, Utah.—The Board of Education recommends the construction of two 12-room school buildings; also a gymnasium for the Salt Lake High School. The total cost will be \$105,000.

Norfolk, Va.—The Legislature has authorized a \$22,000 bond issue for school purposes.

Tannerscreek, Va.—A \$30,000 bond issue is being considered for erecting a school house.

Sisterville, West Va.—The matter of issuing \$30,000 in bonds for school purposes is under consideration.

Everett, Wis.—Proposals will be opened, March 20, for constructing the new \$15,000 City Hall.

#### MISCELLANEOUS

San Francisco, Cal.—It is proposed to build a \$250,000 viaduct along Mission street, Bosworth to Marshall street.

Atlanta, Ga.—The contract for building a concrete viaduct, to cost \$125,000, has been awarded to W. J. Oliver & Company, Knoxville, Tenn.

Chicago, Ill.—Preliminary plans are being considered for constructing two new bridges to improve the California avenue district.

Mishawaka, Ind.—Preliminary plans are being prepared for a new bridge over the St. Joseph river at Bridge street.

Gloucester, Mass.—The County Commissioners will advertise for bids for constructing the new Cut bridge within a few days.—Mayor MacDonald; City Engineer Webber.

Lowell, Mass.—The annual appropriations for city work will shortly be approved.

Waltham, Mass.—A double track will be laid along Moody street by the local railway company. Portions of the street will be paved with vitrified brick.

Grand Rapids, Mich.—A proposition to construct the North End bridge, connecting Ann and Victoria streets, is being considered. The estimated cost is \$66,600.

Hastings, Mich.—The city will issue \$35,000 in bonds for local improvements.

Duluth, Minn.—It is reported that repairs to several city bridges will be undertaken.

Duluth, Minn.—A new \$150,000 building will be erected for the Y. M. C. A.; estimated cost, \$150,000.

Hemidji, Minn.—The citizens have voted to issue \$25,000 in bonds for municipal improvements.

Indianola, Miss.—The Sunflower County Supervisors have preliminary plans for constructing a steel draw bridge over Sunflower river at Indianola.

Kansas City, Mo.—It is reported that the City Council is considering a \$500,000 bond issue for park improvements.

Omaha, Neb.—The proposed construction of a new bridge at Elk City, Douglas County, is being discussed.

Long Branch, N. J.—Plans have been approved by the Town Council for constructing the new casino at Deal; estimated cost, \$50,000.

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Columbus, Ohio.—The County Commissioners are considering the issue of \$25,000 in bonds for building the Reed avenue viaduct.

Elyria, Ohio.—Bids are asked, until March 16, for 400 tons of cast iron pipe; also for one street flushing machine.—C. M. Theobald, City Engineer.

Fremont, Ohio.—Bids will be received, March 17, for the purchase of street improvement bonds.—M. L. Shackelford, Commissioner.

Springfield, Ohio.—It is reported that bonds for \$12,500 will shortly be issued for constructing the Mad river bridge.

San Antonio, Texas.—An election will shortly be held to determine the question of issuing \$75,000 in bonds for a new hospital.

Oconomowoc, Wis.—The Town Council has authorized a \$16,000 bond issue for improving parks.

## Proposals.

### Sewerage Systems

PENSACOLA, FLA.  
Sealed proposals for the construction of a system of storm-water drains and sanitary sewers for the City of Pensacola, Florida, will be received by the Board of Bond Trustees, at the City Hall, up to 12 o'clock noon of the 15th day of April, A. D. 1906. Proposals to be addressed to L. Hilton Green, Chairman Board of Bond Trustees, and endorsed, "Proposals for constructing Sewer Systems," and must be accompanied with a certified check for the sum of five thousand dollars (\$5,000.00), drawn upon a National Bank, and made payable to the Board of Bond Trustees. The work to be done consists of approximately

forty-three (43) miles of brick, cast-iron, terra-cotta and concrete sewers and drains, with their several appurtenances, from 8" to 8' 0" in diameter. Plans may be seen and specifications and blank forms of proposals be obtained either of L. Hilton Green, at Pensacola, or at the office of the Consulting Engineer at Wilmington, Delaware. The right is reserved to reject any or all bids.

L. HILTON GREEN,  
Chairman Board Bond Trustees.  
T. CHALKLEY HATTON, Consulting Engineer.

### Proposals for System of Sewers

Sealed bids will be received up to 4 o'clock P. M., April 11, 1906, at the city hall, Georgetown, Ky., for constructing four (4) miles, more or less, of pipe sewers and appurtenances.

Plans may be examined at the city hall, Georgetown, Ky., or at the office of the engineers.  
R. H. ANDERSON, Mayor.

D. A. ADAMS, Clerk.  
John W. Alvord, Chas. B. Burdick, engineers,  
1207 Hartford Building, Chicago, Ill.

### Notice to Paving Contractors

Sealed proposals addressed to the City Engineer of El Paso, Texas, will be received until 5 o'clock P. M., Wednesday, March 28, 1906, for furnishing material and labor for paving all streets and parts of streets embraced in "Improvement District No. 1," in El Paso, Texas. Bids will be received on sheet asphalt, rock asphalt, vitrified brick, bitulithic, or a combination of these materials. The surface to be covered is approximately 90,000 square yards, and the material to be used will be selected by the city after the bids are opened. Specifications can be had by applying to this office on and after March 10, 1906. A certified check for \$5,000, payable to Charles Davis, Mayor, must accompany each proposal as an evidence of good faith of the bidder. The city reserves the right to reject any or all bids. GEO. C. WIMBERLY,  
City Engineer of El Paso, Texas.

### Brick Paving Block

CAMBRIDGE, OHIO.  
Sealed proposals will be received at the office of the Board of Public Service of the City of Cambridge, Ohio, until 12 o'clock, Thursday, March 22, 1906, for furnishing the paving block required for the improvement of sundry streets, in accordance with the specifications on file in the offices of the Board of Public Service and the

City Engineer of said city. The amount to be used in the comparison of proposals is approximately as follows: 38,753 square yards.

Each proposal must be made on blank forms to be furnished by the Engineer of said city, and must be accompanied by a certified check for \$3,500.00 drawn in favor of the Secretary of the Board of Public Service, without conditions, that the bidder will enter into contract within ten days if awarded the contract.

The Board of Public Service reserves the right to reject any and all bids, or to accept the proposals deemed by them to be for the best interests of the city.

Copies of the specifications, blank proposals, contract, etc., may be obtained at the office of the City Engineer upon application.

O. M. HOGE, City Engineer.  
H. P. WOODWORTH,  
Pres. the Board of Public Service.

### Grading and Paving

OFFICE BOARD OF PUBLIC WORKS.  
GRAND RAPIDS, MICH., March 3, 1906.  
Sealed proposals will be received at the office of the Board until March 24, 1906, at 2 P. M., for the grading and paving with brick on concrete foundation of Canal street, from East Leonard street to Travis avenue; Scribner street, from West Bridge street to Webster street; West Bridge street, from Stocking street to the ¼ line of sections 23 and 26, in the City of Grand Rapids. Such work includes about 62,000 square yards of paving, with the necessary curbs, basins, etc., according to the plans and specifications on file at the office of the Board.

The Board reserves the right to reject any or all bids.

Each bidder shall deposit with his proposal a certified check or certificate of deposit, payable to the order of S. G. Braudy, President, in the sum of 5 per cent. of his proposal, to be forfeited to the City of Grand Rapids in case he shall fail to enter into contract, in accordance with his proposal, should his proposal be accepted by the Board of Public Works.

All proposals must be made upon blanks that will be furnished upon application at the office of the City Engineer. By order of the Board.

CHAS. M. WILSON,  
President Pro Tem.  
Attest: SAMUEL A. FRESHNEY, Secretary.  
L. W. ANDERSON, City Engineer.

### Tenders for Supply of Water Pipe, Specials and Water Meters

Separate sealed tenders, addressed to Ald. J. C. Gibson, Chairman of the Fire, Water and Light Committee, for the supply of a quantity of water pipe and specials of various sizes, and water meters for the City Water-Works, will be received at the office of the undersigned up to 3:30 P. M., Monday, March 26, 1906.

Specifications and forms of tender may be obtained at the office of H. N. Ruttan, City Engineer, Winnipeg, Man.

Each separate tender must be accompanied by an accepted cheque or draft payable to the order of the City Treasurer, or cash deposit for the sum called for in the form of tender supplied, which will be subject to forfeiture in case of failure on the part of the contractor to enter into a written contract with approved securities if called upon to do so.

The city reserves the right to reject any or all tenders or to accept any bid which appears advantageous to the City of Winnipeg.

C. J. BROWN, City Clerk.  
CITY CLERK'S OFFICE, WINNIPEG, March 1, 1906.

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## Proposals

### Asphalt Pavements

GREEN BAY, WIS.  
This city will open bids April and for construction of about two miles asphalt pavements. For particulars, address  
W. W. REED, City Engineer.

### Tenders for the Supply of from 1,000 to 3,000 Tons of Asphalt

Sealed tenders, addressed to Ald. J. G. Latimer, Chairman of the Committee on Works, for the supply of from 1,000 to 3,000 tons of asphalt for street paving for the City of Winnipeg, will be received at the office of the undersigned up to 3:30 P. M., on Tuesday, March 27, 1906. Specifications and forms of tender may be obtained at the office of H. N. Ruttan, City Engineer, Winnipeg.

Each tender must be accompanied by an accepted cheque or draft payable to the order of the City Treasurer, or cash deposit for the sum called for in the form of tender supplied, which will be subject to forfeiture in case of failure on the part of the contractor to enter into a written contract if called upon to do so.

The city reserves the right to reject any or all tenders or to accept any bid which appears advantageous to the City of Winnipeg.

C. J. BROWN, City Clerk.  
CITY CLERK'S OFFICE, WINNIPEG, March 1, 1906.

### For Laying Cast-Iron Pipe

Sealed proposals will be received at the office of the Board of Trustees, "Commissioners of Water-Works," of the City of Cincinnati, O., until 12 o'clock noon of Friday, March 23, 1906, for the laying of two sections of cast-iron pipe.

The aggregate length of the two sections of the main to be laid is about 11,930 lineal feet of 60-inch cast-iron pipes.

Plans and profiles of the work and copies of the specifications, estimated quantities of the work to be done, form of proposal, forms of bonds, and form of contract, can be secured at the office of the Chief Engineer of the Board of Trustees, "Commissioners of Water-Works."

The bids shall be accompanied with bonds, certified checks, bank certificates or deposit, or cash, in the sum of \$6,000.00 and \$5,000.00 respectively, for the acceptance of the contracts, if awarded by the Board of Trustees, "Commissioners of Water-Works."

Bidders must furnish satisfactory evidence of their ability to do the class of work required.

AUG. HERRMANN, President.  
ELMER G. PRYOR, Acting Clerk.

### Proposals for Hook and Ladder Combination Truck

CLERK'S OFFICE OF THE CITY OF EAST ORANGE, N. J.  
Sealed proposals are invited by the City Council of the City of East Orange for one First Size City Hook and Ladder Combination Truck.

The truck is to be of the latest and most approved design, constructed with due consideration to symmetrical proportions, distribution of the load, the nature of the load to be sustained and the general character of the service to which the truck will be subjected when placed in commission. With a view to obtaining these results, the minor details of construction, such as the sizes, dimensions and weights of the various structural parts, are to be left to the discretion of the bidders. The materials and labor entering into the construction of this truck are to be of the best, and the finish, painting and miscellaneous equipment of the same grade of excellence as and in strict harmony with the general character of the apparatus.

The ladder equipment to be of Weston Trussed style, constructed of the best and most carefully selected material, and to be as follows: One 65 ft. cable extension to extend 65 ft.; one 45 ft. rope and pulley extension to extend 45 ft.; two 35 ft. single (side ladders); one 28 ft. single ladder; one 24 ft. single ladder; one 20 ft. single ladder; one 16 ft. single ladder; one 12 ft. roof ladder.

The truck must have rubber tires and be equipped with two double 35 gal. Babcock Chemical Tanks (or other equally good make), with the usual accessories, and also to have a full and complete equipment of miscellaneous tools in keeping with the general character and construction of the apparatus.

The Drawing Rig is to consist of a two and three horse hitch of the Perkins pattern.

Bidders must accompany their proposals with complete set of specifications.

Proposals must be addressed to Edgar Williams, City Clerk, and delivered to him not later than 8 o'clock P. M., March 26, 1906, and the name of the bidder endorsed on the envelope and also endorsed, "Proposals for Hook and Ladder Combination Truck." The City Council reserves the right to accept or reject any or all bids.

EDGAR WILLIAMS, City Clerk.  
Dated March 5, 1906.

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Federal Clay Products Co., 232 5th Ave., Pittsburg, Pa.  
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McAvoy Vitrified Brick Co., Philadelphia, Pa.  
Metropolitan Paving Brick Co., Canton, O.  
New England Steam Brick Co., Providence, R. I.  
Pittsburg-Buffalo Co., Frick Bldg., Pittsburg, Pa.  
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A. L. Barber Asphalt Co., 17 Battery Place, N. Y.  
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Warren Bros. Co., Boston, Mass.  
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#### Paving Materials (See also Brick).

A. L. Barber Asphalt Co., 17 Battery Place, N. Y.  
Bevier Improved Wood Pavement Co., St. Paul Bldg., New York.  
California Asphaltum Sales Agency, Mills Bldg., San Francisco, Cal.  
Central Bitulithic Paving Co., Detroit, Mich.  
Globe Asphalt Co., 405 Bakewell Bldg., Pittsburg, Pa.  
Southern Bitulithic Co., Nashville, Tenn.  
Standard Bitulithic Co., 253 Broadway, N. Y.  
U. S. Wood Preserving Co., 29 Broadway, N. Y.  
Wadsworth Stone & Paving Co., Pittsburg, Pa.  
Warren Brothers Co., Boston, Mass.  
Warren Asphalt Paving Co., Cambridge, Mass.

#### Sewer Pipe.

Buckeye Fire Clay Co., Uhricsville, O.  
East Ohio Sewer Pipe Co., Irondale, O.  
Federal Clay Products Co., Pittsburg, Pa.  
Great Northern Sewer Pipe Co., Empire, O.  
Ohio River Sewer Pipe Co., Empire, O.  
Pittsburg-Buffalo Co., Pittsburg, Pa.  
Stratton Fire Clay Co., Empire, O.

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Acme Road Machinery Co., Frankfort, N. Y.  
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